

ABSTRACT OF THE INVENTION

[0032] A color calibration method for an imaging color measurement device utilizes a detector array, a plurality of optical elements, and multiple instances of irradiation of the detector array for a single measurement. A flat-fielding correction error correction matrix of the imaging color measurement device for each instance of irradiation of the detector array is obtained prior to color calibration. The response for each instance of irradiation of the detector array is flat-fielded with the corresponding error matrix to obtain a flat-fielded, spectrally weighted irradiance response for each instance of irradiation of the detector array. An illuminant light source with known spectral output or chromaticity coordinates is measured to obtain an irradiance response of the imaging color measurement device for each instance of irradiation of the detector array. A color correction coefficient is calculated using the known spectral output and chromaticity coordinates of the light source and the corresponding flat-fielded irradiance response.